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THE REVIVAL OF PROPHECY

TO-DAY AND TO-MORROW

A List of the Contents of this Series will be found at the end of this Volume

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THE REVIVAL OF PROPHECY

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London

KEGAN PAUL, TRENCH, TRUBNER & CO., Ltd. New York: E. P. Dutton & Co.

Printed in Great Britain by STEPHEN AUGIIN & SONS, LTD., HERTFORD

FOREWORD

Can Prophecy be a science? Science, at any rate, appears to aim at prophecy. We are often told that the test of an hypothesis lies in the events that it predicts; but it is a test that is much too rarely applied. We are surprised when Biologists apply it in a systematic way to the theory of evolution. Historians also tell us that the study of the past will help us to foresee the future, but in their practice they hardly succeed in catching up to the present.

The organum of human knowledge, in fact, presents a curious spectacle—a vast system of foundations but no sign of the edifice these foundations are to bear. At least such was the case until recently. In the little prophetic volumes recently published we can see, perhaps, the preliminary sketch of its imposing elevation.

And so another question occurs. What is the future of prophecy? Psychical research may even yet surprise us. Latent powers of divination may lurk in the human mind, but it is premature no doubt to look for enlightenment here. Less sensational but more significant is the emergence of the prophetic function in the work of science itself, and in the pedestrian progress of our general intellectual life in the twentieth century.

It was this prophetic function of scientific thought which the author set out in this little book to investigate, but like other writers in the series he was tempted to "try out" some tentative principles which seemed to promise well. Perhaps the future will reveal some inaccuracies in his forecast, but the digression has been worth while. One thing, at least, is certain. Large scale organization extends to

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the work of science. In our past experiments we have been too much of concerned with events short duration, with the kind of results we could obtain for rapid publication, and with cycles that fall within the span of an individual life. Even now we have insufficient data to decide whether cold winters come in periods of seventy or eighty years, a ridiculously easy problem which a little organization would have solved. But every year will add to the fund of carefully recorded data. Men are learning to co-operate through time. Experiments initiated by the father are continued by the son, and succeeding generations will record the results.

Organization provides a workable alternative to the invention of Methuselahs; though it would simplify things considerably if Nature could see her way to adopt the

suggestion of Mr. Shaw. More than anywhere else perhaps this kind of organization is needed for sociological and biological experiment. By that way we shall obtain the knowledge upon which scientific prophecy may be based. In the meantime, let us speculate. Speculation is not a deadly sin, but an aid to true perspective, and it is suggestive of good hypotheses. Nor need our speculations, even now, be wholly in the air. We have the broad tendencies of the past on which to base our forecast. The danger lies in a premature attempt to elucidate the details. The older prophets tried to foresee particular events, the newer are content with the general tendencies. Knowledge grows not like a crystal by minute accretions, but like a work of art, from outline down to detail guided by inspiration-which, in science, is speculation.

C. A. M.

OR

THE REVIVAL OF PROPHECY

Experience enables us to defend in age the prejudices of our youth, and belatedly to realize ambitions forsaken in earlier years. This would seem to be true not only of individuals but of institutions also.

Modern science, adolescent in the nineteenth century, shows signs of middle age; and with it that mellowed and urbane tolerance which fosters idealism and optimistic projects, projects which the realism and studied pessimism of youth declare to be beyond all powers of attainment.

STRVITA

The researches of Rutherford and his fellow-workers have disposed the serious physicist to dally once more with the Philosopher's Stone. Again we hope to transmute the baser metals into gold. Indeed, the Philosopher's Stone is found. Japanese physicists claim that a magnification 2,500 times of the produce of their experiments enables us actually to photograph the world's augmented gold-supply. Furthermore, the progress of knowledge concerning atomic structure and radiant energy promises to endow man with the powers and range of influence for which the magicians of old had such a notable though undeserved reputation.

Since Freud, the interpretation of dreams has become a serious pre-

occupation of the grave and a further relaxation for the gay. I need not, however, multiply examples. Let us turn forthwith to the latest phase in this development—the revival of prophecy.

Prophecy, of course, has never wholly died. Though the soothsaver fell into disrepute and was banished from the temple precincts to earn a precarious livelihood on Margate Sands, his mantle has fallen on Mr Wells. Mr Wells, however, is merely a prophet of the transition, the journalese precursor of a new and hardier race whose influence in the world I suspect will prove much greater. Like the modern prophets generally, he has substituted for revelation and intuition a thoroughgoing reliance upon the mundane

intellect, fed upon scientific generalizations and historical particularities. Mr Bernard Shaw is another of the transition prophets, having marked affinities to the new Biological School; but, like the rest, is transitional in lacking the regalia of office and authority with which the newer prophets are endowed.

The first of the prophets of the twentieth-century school was Mr J. B. S. Haldane. In *Daedalus* we find a frank abandonment of the pose of scientific reserve about the future. Scientists generally for long had said that they were concerned only with verifiable facts. Newton, in particular, had said quite publicly that he had no use for hypotheses; and his successors for the sake of

their reputations had to keep up the Newtonian manner. To distinguish themselves from journalists and philosophers they avoided speculation like a plague. Now Haldane found himself, I imagine, somewhat unduly constrained by this taboo. Pursuing the most rigid methods of inquiry, he had come to conclusions about some probable developments in the future, conclusions much less speculative than many of the things it was his duty as a biologist to teach about the past. So he prophesied.

The relief in the scientific world was heartfelt and instantaneous. Scientists and others, of various degrees of eminence, literally scrambled into Mr Haldane's bus. In the year or so that followed some twenty prophetic

volumes had been produced, and the publishers tell us of many others in the press.

However, in many of these documents we fail to detect the authentic guiding hand, and these uncanonical works we must leave to the Higher Critics of the future. The genuine prophet is to be known by his strictly impersonal manner. He tells you neither what he wants nor what he fears. So far as we can judge, he has no wants or fears. He merely tells you what is going to be. Iudged by this test we must. I think, reject Thrasymachus, as purely propagandist. Mr Joad wants to popularize immorality. He tries to persuade us to join the ranks of the libertines lest we be swamped in the coming Neo-puritan revival. By the

same token we must, reluctantly, reject Mrs Bertrand Russell. In *Hypatia* the quasi-prophetic rôle is assumed, we fear, merely as a vantage point from which to wage sex-war.

Coming to the genuine prophets, I would divide them into two kinds: the mechanists and the vitalists, not however, using these terms in their traditional philosophical senses. The mechanists are those who view the future in terms of the development of machinery. Man, having a nature very much what it is to-day, is seen in an environment of mechanical perfection, a world of wireless telegraphy, television, fuelless traffic, moving pavements, rubber roads, windows of flexible glass, rustless metals, dustless and smokeless cities, and

private houses fit for a plumber's paradise.

The vitalists, of whom I take Mr Haldane to be the leading spokesman, have a message in the face of which the wonders of wireless are relatively tame. The time has come. they say, when our science and our inventive genius are to be applied to life itself. In a sense, of course, the journalists and men of letters got in first. Kapek with his Robots made the idea dramatic; but the mechanical tradition was too strong. The Robot was little more than clockwork. Wells's "Men like Gods" are perhaps a slight advance, but the gods are all too human, and a bit too much like Mr Wells. Shaw, I think, got nearest. In Back to Methuselah the problem of

biological invention was approached in a more biological manner. But all these are prophets of the transition. They are at heart Utopians, and neglect the evidences of the present upon which the forecast must be based.

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It would tempt us too far afield to inquire into the logical foundations of the new science of "Prophetics", as no doubt this branch of learning will be called. A young science must not at first aim at too much systematic order, nor be too introspective. Let us, rather, glance into the future and try to fill in the larger of the empty spaces in the vision so far presented to our eyes.

We can readily grant at the outset

all that the mechanists claim. fact, there is nothing, I think, unlikely in the suggestion that, so far as mechanical invention is concerned, we are approaching the time when all that is physically possible will be realized. The future customer at Selfridges' who inquires for a teleofactor in order to smell the perfumes of Arabia will be told that the impossibility of this has now been finally proved. For the rest of his desires, however, he will be quite amply supplied. He will have perfected wireless concerts and televisual cinemas; he will be conveyed by the morning aerial Pullman from his villa-palace in Devonshire to his office in what was once the Strand. To his Club or restaurant he will proceed by a moving pavement, or in a bath-

chair propelled by radiant power. His week-ends may be spent in Samarkand or in tobogganing on Mount Everest. His wife, too, will benefit by this universal progress. Her day's work will be done by q a.m. The turning of a tap or two will nourish the ectogenetic child foretold by Mr Haldane, and the pressing of a button will put in action the automatic cook. By wireless communication with Paris she will choose a garment, to be delivered by an aerial messenger boy upon his cycloplane. After luncheon she will, again by wireless, put herself in visual and auditory contact with other members of the society to which she belongs. It will probably be a society for the revival of twentieth-century customs.

But, granting all this, the obvious question occurs. What will be its effect upon human nature? Is it conceivable that the perfecting of machinery could leave it unaffected, and will not inevitably this inventive genius be turned upon man himself? Our future man of business who, by improved modes of locomotion, spends his week-ends in Tenesee, Kikuvu, or Zanzibar (according to his religious predilections), will he enjoy only the advantages of mechanical invention? Surely a perfected Pelmanism will enable him to learn three native languages on the Friday's journey out, and an improved process of repression assist him to forget them on the Sunday evening's journey home.

This is not entirely idle speculation.

Applications of science to the control of the human mind have already begun. They started, perhaps, in the crude and blundering experiments in Scientific Management. They are groping towards more solid foundations in Industrial Psychology—the philosophical significance of which has, up to the present, escaped the attention it deserves.

Consider briefly the course of this movement up to the present date. Sometime in the eighties Taylor introduced his principles of Scientific Management. Some ingenious spirit, indirectly inspired no doubt by him, produced the following invention for organizing the activities of man. A certain American establishment paid its employees on the basis of 'task

work', i.e. upon piece rates with a time-limit for the performance of the unit-task. The worker was paid a 25% bonus on the ordinary wage for the performance of his task, but the task and time-setter was paid a bonus based upon the number of men who failed to earn their bonuses. The apparent disadvantage to the worker, however, was counterbalanced by providing him with a foreman who also was paid upon the basis of the number of men under him who 'made their tasks '. As Muscio 1 comments. "The situation then was this: The workman was given a bonus as an incentive to expend intense efforts to accomplishing a task in a set time; the foreman

¹ Muscio, Lectures on Industrial Psychology, p. 39 (Routledge).

was given 'blood money' to drive the man if he became slack, and the task and time-setter was also paid 'blood money' to set the times so short that 'the making of the tasks' involved an expenditure of more than the greatest reasonable amount of energy." The Trade Unions got to know of this, with the result that Scientific Management of that sort is now as dead as mutton. Public interest subsides. But in principle it was right-right in the sense that its inventor had a glimpse of something which is ultimately going to prove effective. He made the mistake which probably every inventor makes. He constructed a machine with the power to blow itself up; but this only shows that power is there, and power to be

controlled. The mistake, of course, was a natural one to make for people preoccupied with the parallelogram of forces. Another case supplies the necessary comment and indicates a more hopeful line of experiment.

"There was in operation for some years at the leper colony off the Philippine Islands a system of weekly gratuities to each man, woman, and child confined to the island colony. From the women and children no accounting for the subsidy was required. But from the men a certain amount of manual labour about the island was exacted upon penalty of having the pocket-money withheld. From the administrative point of view this had seemed an easy solution for the difficult problem of getting adequate

labour in an isolated place inhabited largely by the victims of a dread disease. But the men patients took vigorous exception to this form of compulsory labour, and finally made complaint about it to the Philippine Government. An investigation into the unrest at the leper colony was instituted, and the Secretary of the Interior visited the island and heard all the complaints in person. As a result of his study the system of gratuities for the men was wiped out. And the necessary work on the island was paid for at an agreed rate which, it appeared later, was less than the previous gratuity. Nevertheless, the men found the new system preferable; there was no more complaint, the necessary work was done: the

men who were inclined to work received their stipends and the others did not. But from that day to the present trouble on this score has been unheard of." ¹

More systematic were the investigations in this country made under the Ministry of Munitions. In the Interim report of 1917 of the Health of Munition Workers Committee we find the following reference to incentives in industry.

"It is essential that the wage system should be equitable and easily understood by the workers. The evidence collected leaves no doubt that a wage system the operation of which cannot easily be understood by

¹ Ordway Tead, Instincts in Industry, p. 1.

the wage earners . . . fails to serve as an incentive."

In fact, the evidence in detail rather suggests that it is more important for the system to be intelligible than it is for it to be just. As in the case of the Philippine lepers a reduction of wages may in certain cases be the shortest remedy for industrial discontent, just as the reduction of working hours has often been found to involve an increase in production.

More important, however, than juggling with the systems of remuneration is concentration upon the subtler psychological factors in the situation. Politicians, artists, bishops, and many members of the working-classes are played upon by forces which act more powerfully on their energies than

any system of wages that could be applied to them; the ambitions and interests of their wives, the health of their children, the criticism or adulation of their associates and a host of other factors of curious psychological interest. Is it beyond the wit of man to apply these forces in a scientific way?

One very instructive attempt was that of another American establishment, which instituted the office of 'plant mother'. "It is her duty" (as Tead puts it), "using this motherly disposition and attitude as an entering wedge, to go among the men and help to straighten out their troubles with the management. And one of the most successful weapons of appeal with her is said to be that she puts employées'

problems in family terms. For example, a man will want to quit because of a slight ruction with a fellow-worker or a superior, whereupon she will remind him that his little Johnny should not be forced by father's unemployment to leave school to go to work, or that another baby is coming in a couple of months and that he mustn't cause anxiety to 'the wife'. . . . This particular 'plant mother', I am told, has been instrumental in reducing the labour turnover to an astonishing extent." 1

My readers will be able to think of many other possible applications of this principle. Cannot our domestic parrot be turned to economic advantage? Its present function would

¹ Tead, op. cit., p. 28.

seem to be only that of preserving the unity of private family life by giving its jaded members something to laugh and talk about when the bonds of common interest and filial piety are beginning to wear thin. That which preserves the family from disruption and armies from revolt will surely soon be dedicated to the cause of peace in industry.

To these things we are gradually and insensibly being led, so gradually and insidiously as to evade the inhibitory sense of the ludicrous. Already it is known that light, ventilation, and the general comfort of the worker are relevant to production. By slight and inexpensive changes in these respects output may be augmented say 3.5 or even 10 per

cent, and the worker suffers less from nervous irritability and is less punctual in paying his subscription to his union. At any moment it may be found that hanging pictures on the workshop walls has a similar effect. Possibly Landseer's would raise efficiency and contentment only I per cent, whilst Sargent's would really justify their auction prices. We should then discover a more satisfactory policy with regard to our National Galleries. We should go to Port Sunlight to see good pictures and the Royal Academy would become the testing hall for experiments in industrial art.

All this is coming about no longer by mere chance or blind experiment, but by the operation of a principle

which I take as a foundation stone for prophecy. Man has slowly and painfully acquired facility in adopting the scientific attitude of mind. Gradually he has been able to achieve this point of view in relation to the material universe. But he finds a peculiar difficulty in being scientific in the face of the animate; and the difficulty would appear to be almost insuperable in the face of mind. It is because we are living at a time when the feat is being accomplished that I feel impelled to prophesy an important revolution, a revolution beside which the Bolshevic incident, for instance, is dwarfed to almost comical insignificance.

The revolutionists are level-headed but far-seeing men of business, acting

in alliance with the scientists. Here is their programme as voiced by Professor Cattell in 1903.

"It is our business to make both a science and an art of human nature. As in the physical world we select first the material suited to our purpose, and turn the iron into steel, and temper the steel for a knife, so in the world of human action we must learn to select the right man, to educate him and fit him for his exact task. This indeed we try to do in all our institutions, religions, commerce, system of education, and government. But we work by rule of thumbblind, deaf, and wasteful. The nineteenth century witnessed an extraordinary increase in our knowledge of the material world, and in our

power to make it subservient to our ends; the twentieth century will probably witness a corresponding increase in our knowledge of human nature and in our power to use it for our welfare." 1

Let us note the implications of this programme. At present we have made but a few experiments and a few discoveries in industrial psychology. The future, however, is to see the principle applied to education, criminology, government, war, perhaps religion and the intimate personal life of man.

Can we foresee the consequences? To some extent, I think, we can. As Dr Fournier d'Albe puts it in the

¹ Homo Scientificus Americanus: Science, April 10, 1903.

first of his prophetic volumes,1 we have but to extrapolate the curves of present developments into the future. We must, however, also take into account so far as possible some of the other factors at work. The general course of evolution is in outline known to be one of differentiation, specialization, integration, growing consciousness of ends, and substitution of systematic experiment in place of blind trial and error. We shall find other clues which. carefully studied, enable us to speak about the future with at least as much assurance as biologists and anthropologists enjoy in speaking about the remoter past. We shall, moreover, have the added benefit of finding confirmation or correction in the years to come.

Quo Vadimus.

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Facts brought to light in the sphere of industry have an application in politics, so to politics and the arts of government let us turn. Let politicians consider, for example, the discovery that the incidence of shell-shock in war, and of nervous disorders in peace, is highest in the dangerous occupations which are also the occupations most liable to industrial unrest. Such facts prevent us from viewing the discontented worker either as a martyred idealist, or as a mere criminal. The case is paralleled by the suggestion that desertion and malingering in exhausted armies are symptoms or 'defence reactions' in incipient shell-shock. They force upon us a more dispassionate

and a more therapeutic point of view. The criminal in general is coming to be regarded in this light. Turn now to the anarchist, and the psychoanalyst explains to you that his activities are minor symptoms of his 'father complex', which imprisonment, for example, will merely intensify.

From knowledge of the conditions of these things proceeds control. Possibly punitive measures may be genuinely counteracting causes. Perhaps, however, empirical science may declare that the best treatment for an anarchist is to make him a Lord Mayor, and the best remedy for a militant labour party is a term of office judiciously supervised by our permanent officials. The future student of social affairs will be preoccupied

with the scientific investigation of the sources of power and its social reservoirs. The 'party in power', as it is charitably called, has not much of it. Public opinion seems to have much more. In fact, the chief function of a government, now-a-days, seems to be that of carrying out the programme of the opposition.1 The opposition is relatively free from criticism; the Government moves in continual dread of it, being threatened by attrition in its bye-elections and by a general landslide at any appeal to the country.

Under such conditions the essential tasks of government are very much

¹ We have recently witnessed a paralysed Labour Government incapable of carrying out its projected remedies for industrial ills, and a Conservative Government maintaining a system of Free Trade.

the same of whatever political colour the party in power may be. First and foremost it has to deal with emergencies, whether spontaneously arising or organized by the opposition, in such a way as to preserve its popularity with the public. It has also to carry out more or less efficiently the routine work of government, and it has to prepare for the next election by enshrining its most permanent tactical advantages within the framework of the Constitution. Any time and energy that may be left can be devoted to carrying out its 'programme' and in dealing with what it conceives to be the fundamental disorders of society.

A 'party programme', like a dream, has a manifest and a latent content. The manifest content is drawn from

the incidents of the day and popular demands. The latent is constituted by those deeper policies for the furtherance of which this clap-trap may be closed. The distinction between the manifest and the latent content is not due, as is frequently asserted, to mere political dishonesty but to the necessities of the case: the primitive group mind's need of a 'Cause' and of an outward and visible sign of an inward and spiritual economic doctrine. With the increased complexity and scientific character which the latent content is. in future, likely to assume political sacramentalism will become more and more important.

How will this affect the issue of our present discontents? Viewing the situation frankly, we find in society

two powerful and opposed forces. Let us adopt the convenient labels and call them Capital and Labour. It would take us too far afield to discuss in detail the prospects of success in each of the various remedies suggested for their enmity. In general, it seems to me that all the proposals depend for their success upon largescale persuasion, and ignore the fundamental causes of unrest and conflict. Even labour, it seems to me, is mistaken about the causes of its troubles. and labour might be expected to know them best. But even to ask this would be as unreasonable as to ask a patient to diagnose and prescribe for his own disease. The solution, I venture to think, will come along the lines upon which the only solution of

any problem has ever before been found-along the lines of exact and scientific thought and piecemeal investigation. The recognition of this combined with attention to the apparent power of public opinion in modern politics has led many to suppose that the ultimate remedy lies in the dissemination of education, of exact and scientific thought throughout our great democracies. But, personally, I doubt the possibility of disseminating anything, least of all scientific habits or attitudes of mind. It would seem to violate the rule of differentiation. Nor can I bring myself to believe that there ever was or is ever likely to be a democracy in any important sense. It is sufficient if this scientific spirit be exploited by those who hold the reins

of power, and it is because it seems that they are beginning to see the possibilities of this that I think the really significant revolution is to come. What is called 'Public Opinion' is now-a-days a carefully manufactured article produced by firms entirely outside the scope of the Factory Acts. Of course, even a despotism is a 'democracy' in the unimportant sense that the despot's rule depends upon a certain kind of consent. What has happened lately is that a new kind of leader has been evolved. The old leader ruled by certain kind of obvious strength. The new ruler practices an art. He is, moreover, a student of the science of persuasion. He appeals through various media directly to the masses, and does not so much inspire

confidence as suggest that he is only a more articulate spokesman of their will. The contrast is rather like that between coercion and hypnotism, two obvious ways of making people do as you wish; and the transition from one to the other does not seem to me to be adequately described as a passage to democracy.

The future, it seems, will see these powers scientifically employed. Much has been learnt by crude empirical methods. The newspapers, the advertising agencies, and the publicity departments have a store of knowledge upon which politicians are wisely beginning to draw. Soon they may attend to Mr Bertrand Russell, who in his prophetic volume, foresees the development of glandular psychology.

We know that by suitable injections a person's emotional mood can be changed, and Russell suggests that a simple operation like compulsory vaccination will convert the reddest Bolshevic to the temperament of the mildest curate. The glands of docility will be under government control.

The suggestion appears to me to be over-simple, and to belong to the mechanistic type of prophecy. Its supreme simplicity is in this connection its supreme defect. The only defence against democracy is a complicated mode of government. If methods of government are fool-proof then any one can practise it; and a sudden coup d'état, or an invasion of half-adozen uninoculated savages, would be an irrevocable disaster.

It is, I think, mainly through the development of scientifically conducted propaganda that the world may one day see the abandonment of force. No wholesale change of heart will be involved. It will simply be that a more efficient weapon will have been discovered, a weapon that is preventive as well as corrective in its use.

The military mind is, it is generally agreed, conservative to the verge of sheer stupidity, but even the military mind is becoming infected with the new ideas. Under the influence of Captain Liddel Hart, the military representative of the prophetic school with which we are concerned, it will surely come to recognize "the moral objective of war." Even this author

¹ See Paris, or the Future of War.

is conservative, in regarding tanks and aeroplanes as being the principle weapons of the future. With regard to the immediate future he may be right. But the implication of his general thesis is that all these weapons will ultimately give place to subtler ones of psychological design. Hardly less effective than the 'death ray' in bending the enemy's will is the rumour that one has been invented. And rumours can be invented daily in His Majesty's Office of Propaganda. And why stop at the control of fear? Why not apply psychology throughout the whole of the enemy's mental life? Perhaps, in the last of all wars to end war, victory will fall to the side which first makes its enemy laugh. The power of a sense of humour,

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at any rate, is a terrible weapon in the negotiation of peace. Our late enemies would scarcely have fared so badly had they been less sparingly endowed with it in war.

Humour has its applications in peace as in war. Under universal Scientific Management, the Government will vie with the underground railways for the control of public laughter. The Catholic Church, in enlisting the aid of Chesterton and Ronald Knox against its irrefutable but dreary adversaries, has for once in modern history placed itself in the vanguard of a winning cause.

The weapon has curious possibilities, but is one difficult to employ. Quick wits sensitive to the trend of fashion are the essential qualifications for a

Minister of Public Humour. For the joke is the most ephemeral of all works of art. It takes years of patient research, now, to see the jokes of classical antiquity, and pages of solemn argument to defend the taste of Shakespeare in his humour. Differences of humour separate age from age and class from class. It is the weakest link which binds the intellectuals to the cause of labour. One might expect this weapon to favour established institutions, for only the fat and prosperous can laugh with merriment, but by the same token the jokes of Marie Antoinette were unintelligible to the hungry. Therefore the lean and plodding journalists will come into their own and take their place among the expert advisors to the future Ministry of Talents.

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Education will perhaps be one of the most interesting fields of future scientific management. At present we know a few bits of a few sciences. and a handful of historical facts. We fill the picture out with theories and blunderingly try to make other people memorize these things. We call the process Education. We have invented a few devices for discovering what they forget, and call them Examinations. Recently we have invented a few tricks of exposing what they cannot do, and we call them Mental Tests. We wrap it all up in a tangle of loose philosophy, and we call it The Science of Education. We profess, it is true, some loftier

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pursuits. We are trying, we say, to teach our pupils to think. We try to mould their characters, and we try to produce good citizens.

But what does it all amount to in the end? The most successful way vet discovered of teaching people to think is for the teacher himself to think aloud, and hope that his pupils will catch the knack. How do we set about moulding the character of a child? By moral precept, good example, healthy sport, uplifting atmosphere, and an unprincipled application of punishment and reward. Our children are bored by precepts. They yawn in our presence and make fun of our precepts in our absence; they break out at the first opportunity and "sow their wild oats", and then

rediscover our old morality for themselves. The more adventurous invent a new one of their own, probably a finer thing than that we tried to teach. Our good examples produce two alternative effects. If the child happens to like us, he will imitate our actions. and morality becomes an empty mimicry. Perhaps, on the other hand, we have an unfortunate mannerism or some innocent resemblance to a forgotten terror, and the child dislikes us. The good example is taken as a pattern of the thing to be avoided. By counter-suggestion he takes the opposite course so far as in him lies. The sons of clergymen might provide us with material for a theory of moral education

Our healthy sports—but why go on ?

It is not my intention to ridicule the best things that the wisdom of the ages has produced. My only contention is that our methods of education are hopelessly tentative, uncertain in their effects, justifiable only on the ground that we cannot vet see clearly anything else to do. But things will change. Already there is a science of education, because people with scientific minds are thinking about the problems it presents. They are experimenting, and they are at least disclosing our ignorance. Experiments similar to those of Scientific Management are producing similar results. We are beginning to know important things about the mind, its natural development, and the method by which it works. Already we know a

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good deal about the conditions of remembering, enough at least to condemn, if we dared to think out the implications of our knowledge. many venerable educational practices. Some of the most important of our discoveries fall readily into line with the results of Industrial Psychology. There seems, for example, to be a natural rate of working appropriate in learning, appropriate rhythms of impression, rest and recall, by the operation of which knowledge becomes firmly embedded in the mind. When these rhythms are ignored, the evil effects of cramming are produced. Our educational methods in the school and in the university break and crush all these rhythms, and students pass out into the world with mutilated minds.

The rhythms of life, however, present in every field possibilities of extensive modification. That many needs demand a rhythmic satisfaction is well known, but there is scope for detailed investigation and experiment here. None of these natural periods seem to be absolutely fixed beyond all power of alteration. The rhythms of digestion probably vary with the fashions of the age and class, according as high teas or late dinners are in fashion. They might under certain conditions have depended upon the tides; and changes in our habits of taking nourishment would probably produce most interesting variations.

Why should we sleep throughout the night, and work throughout the day? Our habits in this respect were formed

in the days before fire was stolen from the gods-and they are wasteful habits, too. Artificial light one day may easily come to be as cheap as water, and man will change his ways of taking rest. Some experimenters urge that the most valuable part of sleep is in the first few minutes. The remainder of the night we spend in dreams and in gradually waking up. Let us apply the principle of restpauses in a thorough-going way. Distributed periods of sleep might prove a great economy. People will be taught to recline say once in every two hours, and sleep for twenty minutes. Thus will be inaugurated the twenty-four hour day, and a race of energetic Napoleons will emerge.

But to return to general education.

Why should the period of learning be concentrated wholly in the early years of life? Distributed periods of study will undoubtedly prove more effective, say two hours every day, or two days every week, or, if you like, two continuous months in the year throughout the whole of life. Thus might come the solution to a variety of problems. We have, first of all, the problems of education itself. At present we arrange the life of a child so that a period of intensive cramming is followed by the abrupt cessation of intellectual life at the time when the intellect is just beginning to mature. There is the problem of industrial fatigue, due more often to monotony than to arduous labour. Recent researches afford scientific support to the adage

that a change of work is as good as a holiday. Educational pursuits will provide the necessary change. Already many working men spend their evenings at classes and their only holiday at a summer school.

Lastly there is the ever-growing problem of the prolongation of infancy. Under simpler conditions a child was adequately equipped for practical purposes by the age of ten or even younger. Now-a-days fourteen years is considered necessary, whilst the professional man is almost thirty before he is fit to earn a living—and still there is more to learn.

Given successful scientific research in this direction, back we go to the methods of the early days of the Industrial Revolution with children

employed in every factory. Under rational supervision it may prove a great advance. The moral education which practical life alone can give will commence at the proper time. Children will be protected from the dangers of neglectful or over-solicitous parents. They will acquire at an early age the much-required sense of responsibility and independence, and their parallel work at school will acquire some semblance of significance and interest.

In addition to new rhythms and periods of study, new methods will be employed. Probably the curriculum itself will be the first thing to be revised. In spite of a good deal of relevant knowledge, no one has yet consistently thought out an answer to the question: What should a

child be taught? Freed from the assumptions of faculty-psychology and from its present entanglements with external systems of examination, the course of studies prescribed for the ordinary child would omit much that is now included and include much that is now ignored. Moreover, the order of presentation both of subjects and of the material in each subject will undergo extensive alteration. Changes in this respect have already well begun, and changes blindly initiated move towards enlightenment.

Things are moving towards a triple control of the individual life, one that roughly corresponds to the old control of the Church and State, with the added partnership of organized industry. To the modern representative of the

Church-whatever ultimate form this institution may take-belongs the function of guiding the individual for his own personal good. It is a service which the Church might easily have continued to perform, but for its insistence upon doctrinal terms. What was in effect a kind of strike of the religious ministry, met by boycott on the side of the general public, has led to the development of black leg service on the part of psychoanalysts and disinterested teachers. At present the organization manifests all the muddle of an emergency supply. Children in overcrowded schools cannot obtain adequate individual guidance, and the work of the psychoanalyst is curative only in exceptional cases, and not, as it should be, univer-

sally preventive. Nevertheless, feeling moves in the direction of agreement that something more must be done, though as yet nothing like a constructive policy of personal guidance has emerged.

The activities of the State in this connection are likely to increase. In earlier days a man could be born, could live and die in comparative privacy. Now, official notice is taken at least of his birth, his marriage, his income, most of his crimes, some at least of his diseases; and his death. too, is registered. The registration of particulars about the individual will extend to educational records, abilities and disabilities, and of all that is relevant to his social life. Much of this will be done by institutions of

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the kind which our present "vocational bureaus" dimly and crudely foreshadow. Ultimately a public service more or less State-controlled will be developed to mediate between Education and Industry. When life becomes more fully organized into a system of interlacing rhythms, the unit of the secondary Educational System will be an institution embracing factory, school, and clinic under a single board of control with its industrial, educational and medical representatives; and the threefold plan will no doubt be adopted in both the higher and lower grades.

Early in life some of the main tendencies and abilities of the child will be diagnosed and he will be sent to the appropriate school and industry.

Doubtful and obscure cases will, with the "allround" types, be sent for a "general education", in the course of which, however, they will come under more careful examination. By the age of ten or twelve the child's future course should in outline and general character be fairly clearly known, and by sixteen he will have become more or less specialized to a certain type of course. Not, however, completely specialized. To meet the problem of trade-fluctuations and consequent unemployment, and as a preventive of industrial monotony, each person will probably be taught a variety of pursuits, achieving a balance appropriate to each case of mental and manual work. The system of multiple vocations would probably be operated

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in conjunction with some form of industrial conscription; for increased wisdom in government should by this time have undermined popular prejudice on this score.

At the prospect of such extensive changes in our educational institutions one wonders what is going to happen to our ancient and venerable universities. They might, consistently with all that has been said, preserve their functions as specialized seats of learning; but it is more likely that long before a rational system of education has been evolved they will have changed their character beyond all recognition. In optimistic, but perhaps short-sighted, moments, it is commonly supposed that with the increasing demand for education their

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future is assured, and that they will assume ever-increasing importance and enjoy ever-growing popularity and respect.

Let us, however, for a moment consider the instructive parallel of the Holy Catholic Church, the unfortunate history of which is a byword at the present day. The causes of its decline do not. I think. include one that is frequently suggested. Men are not to-day less religious or less in need of its holy offices. The change has come about not by decreased demands but by competition and an augmented supply. Men still need the things of which the Church once held an almost complete monopoly. They need some sort of philosophy, some personal guidance in the difficult art

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of the moral life, and many other things which once the Church alone could give.

The invention of the Press made possible the novelist. The novelist found himself adopted as guide, philosopher, and friend. The younger generation now-a-days acquires its general outlook from the novelists and playwrights, who exercise an almost sacerdotal influence. Personal guidance is offered by the psychoanalyst. He exercises the priestly functions of the confessional and of exorcizing demons; whilst Coué and his disciples offer a new technique of prayer. The validity of these practices is not here my subject, but the fact that people are getting what they want. Such new ways of

meeting old demands are continually being found, and may not the Universities soon find themselves in the position of the Church? Several things would make the suggestion plausible.

In the first place, education is already being purveyed as a commercial product. Quite apart from the self-educators produced fortnightly by the Press, there are Mind-training Institutes and Correspondence Colleges. Universities at the present time can afford to ignore this competition. They have, they think, the pull in traditional prestige, the advantages of the tutorial system, the general atmosphere of culture, and they have, we trust, at present the most distinguished scholars. But traditional prestige is a slippery

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foundation for any institution now-adays. The test that is being applied is that of practical efficiency. Already happy-go-lucky methods in University finance are being examined by Royal Commissions and by financial experts. The next thing will be that they will start to scrutinize the educational methods being employed. Already, moreover, the newer institutions are being forced to mould themselves upon the model of an up-to-date business office. Soon they will adopt those wellproven adjuncts of commercial progress - modern methods of advertisement, for instance.

When the printing press arose, priests, no doubt, preserved their self-assurance by reliance upon the peculiar efficiency of the spoken word. They

clung to the sermon and scorned the weapon of the pamphleteers. When comparing themselves with the Correspondence Colleges, the Universities resort to a similar argument. One day, however, the Correspondence Colleges will realize the possibilities in wireless as an adjunct to their methods.

When with the assistance of its influential board of directors some national broadcasting company finally secures its charter, the following situation will arise. Phenomenal salaries will attract the most distinguished exponents of the various arts and sciences to the central broadcasting stations. District Colleges staffed by automatic invigilators will call the roll of students at the various

lectures. These will be delivered by a loud speaker synchronized with a televisual cinema projecting the lecturer's blackboard and other illustrative material.

The economy effected by conducting classes of say half a million or equally easily ten million students will enable anyone to follow courses by all the most distinguished exponents of his subject. European students in psychology, for example, will attend say at 9 a.m. for Professor Stout, followed at 10 by Dr Sigmund Freud, and at II by Professor G. E. Moore. Nor need these distinguished men repeat their lectures until they have something new to say, for dictaphones will be included among the listeners-in, and another relay of undergraduates

will acquire their wisdom from the broadcast-phonograph.

Such a soulless business organization. it will be objected, could never replace our present establishments of culture. But here, again, I feel the objection is of purely transitory force. Progressive differentiation which I have mentioned as an important aspect of evolution has produced the antithesis of commerce and cultured life. Differentiation, however, is to a great extent counterbalanced by processes of integration; and such integration we can see in progress in the business blrow

The commercial applications of art besides influencing the dividends of our railway companies must be exercising a cultural effect upon their

boards of directors: and culture filters through in many ways. The justly renowned polish of the Oxford graduate is finding a lucrative field of expression in modern salesmanship. An up-todate salesman now-a-days speaks considerably better English than his customer, and the average waiter is better mannered than the proprietor of the hôtel. It is inconceivable that the employer will continue to be quite uninfluenced by his cultured and refined subordinates. Perhaps this is the secret of the growth of those Learned Societies the purport of which we understand is to supply that liberal education demanded now by busy business men. When the captains of industry have mastered this business of being cultured and have seen its

possibilities in practical affairs their own peculiar talents will be applied in ever wider spheres; of which education will probably be the first.

V

Dr Schiller is of the opinion 1 that the evolutionary impetus is spent, and biologically at least we have seen the end of change. I wonder. And supposing he were right? The process might begin again; this time with the men of science at the helm.

The vast and powerful machinery developed to meet the needs of Scientific Management in industry, government, and education may make it possible to initiate and control the operation of the natural laws of change. Side by

side with the direct control of character. belief, and action, large-scale experiments in eugenics may proceed. Such experiments would not demand the clumsy expedient of the Act of Parliament. The triple control will provide adequate means for eliminating the intractable factors in the situation Perhaps the constitution of the United States of America provides the most promising machinery at present for large-scale sociological experiment. These States, moreover, are fortunate in the character of their population. But whether by education or by eugenic control man himself will change. Physically, by a process of atrophy (at which Dr Schiller will not, I trust, demur), he may consist chiefly in a head from which will depend a mass

of atrophied limbs. He will presumably be more or less permanently mounted upon a compact automobile, travelling by road or by air. No doubt a submarine attachment will be available to facilitate his morning bath. But it is not with his appearance that we are here concerned. What is the future of his mind?

There are interesting possibilities in the sphere of sense alone. Some of our present senses, such as taste or smell, may disappear altogether. More and more we seem to depend upon purely visual cues. On the other hand, vision and hearing may be

¹ But on all questions relating to our mechanical future I must refer the reader to Professor A. M. Low, to whose works *The Future* and *Wiveless Possibilities* I myself am chiefly indebted in this respect.

considerably augmented. Even though they be supplemented by microphones and microscopes, we always strive to see and hear a little more than the best of instruments allows. If, after all, the biological vitalists are right, so long as we are interested in the constitution of matter there is a motive for further variation. But, as Professor Low points out, our æsthetic susceptibilities will have to be modified on the way. When we first begin to perceive the fauna in the cheese and the microbes on our walls, and when, like the birds, we go into the country to listen to the worms, we shall have to revise our values. Our poets, too, will find new themes to sing.

Memory, even more than sense, suggests many possibilities of develop-

ment. By hypnotism, or by the natural working of the unconscious mind, it is said that we can recall even the earliest events of life. Soon, perhaps, this power will be under conscious control, and the autobiographers will have their millennium too. But, quite apart from this, new methods of education and a little Scientific Management would enable us, even now, to do much more with our memories through the powers we already possess.

The developments of intellectual life are the most difficult to foresee. But there are a few clues which enable us to guess at their possible nature. What purely intellectual achievements have been made in the past seem to depend upon the development of

language and the elaboration of symbolism convenient to thought. Philosophers and scientists have continually expressed dissatisfaction at the modes of expression at their disposal in a language primarily devised to express our emotional and practical demands. Scientists have invented a technical terminology in their nouns. Mathematicians go somewhat further, and have invented more thoroughsystems of symbolism. going Philosophers have always found it necessary to invent peculiar manners of speech, and now are seriously beginning to follow the mathematicians. It is possible that quite a new language will arise, probably a variety of purely technical languages-useful for different purposes of thought. The process of

differentiation manifests itself here as in other ways. Already people following different pursuits find it almost impossible to converse, at least with anything approaching mutual understanding. And this process of specialization which education and increasing knowledge forces upon us points to another obstacle in the way of the Esperantists and other propagandists for a universal language. By the time this language is adopted, we shall have lost all common interests for the discussion of which it might have been employed. Perhaps our newer universities will inaugurate professorships in small-talk to keep alive an obsolescent art and to correct this serious menace of specialism.

More rapid than changes in the

intellectual life will be those of character and of temperament. There are two significant facts in the trend of man's emotional development, one of special and the other of general interest.

Firstly, there is the curious decay of cruelty and the increased desire to avoid inflicting pain. No one, surely, would deny an enormous change in this respect even in recent centuries. And we are beginning to discover the lengths to which development may go. Even now it often causes a moral man to attribute base motives to himself in doing a kindly act to spare his friend the subtle pain or sense of obligation which occurs in the feeling of gratitude. Modest forms of generosity often have this motive in their modesty.

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There is not much further to go before we reach the social life of Henry James's novels—where the principal characters have exquisite consciences, where good souls are tortured by the regret that they had not expressed their reproaches a shade or so less directly so as more to convey the impression that they had really said nothing at all.

Now-a-days you are afraid to forgive your enemies, lest the pain of remorse you thrust upon them should exceed the discomfort inflicted by a direct retaliation. The finer spirits of the age cannot live up to their own ideals because of the sense of inferiority it would impose upon their less advanced companions. Society in the thirtieth century will assuredly be even more refined.

The second significant fact of the moral history of our age to some extent ameliorates the prospect. We are gradually growing out of our emotions. We are acquiring self-consciousness and becoming habitually introspective, and, as the psychologists tell us, you cannot observe an emotion without decreasing its intensity.

This partly explains what is curious in what is called "modern love", as practised and expounded by our younger novelists. It is essentially introspective. Every schoolboy knows what is going to happen when he falls in love. He knows about the illusions arising from emotion. The undergraduate cannot make love extravagantly like the Elizabethan poets, or sentimentally like the Victorians. When

he feels the passion rising, he informs the provoking cause of it, that he knows quite well that, in spite of it, she is a perfectly ordinary little person with nothing very much to recommend her. They both agree that they are victims of an obsolescent mechanism designed for biological purposes, a mechanism primarily intended for the brutes, but annoyingly persistent in its control over civilized man. They agree, however, to act the performance through, because a rational way of making love is difficult to devise. They agree to make senseless and meaningless remarks. He is prepared to rave about her perfectly beautiful eyes whilst rationally convinced that they show a distinct suspicion of squint. She in her turn will admire

his manly form whilst fully conscious that he is rather undersized and remembering that he signally failed to get his Blue. The kind of objective attitude that we are being taught to adopt towards criminals, which the psycho-analysts tell us to adopt towards the libertine, sooner or later we shall have to adopt towards ourselves.

In any attempt to picture to ourselves the life of future man one of the chief of the things which we have to take into account is the entirely remodelled constitution of society. There will be a small upper class—very small because, as all the prophets agree, the decrease of the birthrate in the upper strata will assume for sometime quite alarming proportions. It will be regenerated for a while by the

bolder, more adventurous, and more capable of the working-class, who use their wits to escape from the situation into which they were born. Later, of course, this escape will be facilitated by reliable mental, moral, and vocational tests. The workingclasses proper will then consist only of those less capable of administrative, organizing, and managemental functions. There will be relatively little unrest because the ruling classes will have learnt the wisdom of making the workers comfortable and happy: and potential agitators by the system of vocational selection will find themselves more lucratively employed in voicing the opinions of the ruling classes at the broadcasting stations. Plato will have come into his own.

His criticism of democracy will have become accepted and the philosopher kings—with a difference—will have become established in the seats of power.

Whilst the masses enjoy their innocent pleasures, the ruling caste will live a life of its own. Tudged by the present, one might expect it to be a life of sport, gambling, and house-parties, and there may be a transition-period of this kind. In this no doubt some curious forms of sport will be devised. If the theory is well founded which asserts that our present modes of sport are debased survivals of ancient occupations, the craze of the fortieth century may be the fascinating game of mining. It will be played in specially constructed coal-mines, filled with ingenious traps,

blind alleys, and water-hazards. Messrs Pope and Bradley in those days will circularize their clients by provocative letters pointing out that last year's mining suit is hopelessly out of date, or that the time has now come for replenishing the aerial wardrobe for the forthcoming polar sports. Chemical warfare, conducted with novel forms of laughing-gas, will be a popular institution at Christmas parties.

Various considerations combine, however, to suggest that sport is but a transitory phenomenon in human life.

Firstly, the applications of scientific method to its pursuit is tending to remove its distinctive character. And this tendency for economic reasons is likely to prove irresistible. The oldfashioned sportsman will protest

against the newer methods. He may refuse to bring to the golf course wind gauge and slide rule; he may refuse to attend to the lessons of motion study, but in consequence of his stubbornness he will find himself too ridiculously outclassed to appear on the course at all. His will be the fate of the older militarists who protest on similar grounds against chemical warfare.

To those who play the newer game, sport will become a rigorous discipline and a scientific pursuit.

The general public, moreover, will increasingly enjoy its sport by proxy. The televisual cinema, which will then be stereoscopic, will provide a substitute for the football match; and the sporting spectacle will naturally form

only an incident in the variety show. Again, the sporting interest will be merged, this time in the interests of general entertainment.

Another important change already far advanced which will radically alter the character of sporting life is man's recent discovery of his mind. The punch ball and gloves now hang limply on the wall whilst the one time early riser lies comfortably in bed cherishing the formula by which he grows sturdier and more Spartan in every way. Instead of Sandow we have Pelman. and this will spread to the schools. Enterprising teachers graphically plot the progress of their pupils upon the wall. Small boys will exhibit their I.O.s and scorn a display of biceps. If Alec Waugh continues to write about

it, the change may reach the Public Schools. Again, it is the work of the printing press which is at last beginning to tell. Anagrams and intellectual puzzles of all kinds have existed for the few from ages immemorial, but in the cross-word puzzle the principle is finding a wider appeal.

Lastly, the final blow to sport and to our British system of thought built up upon it will come from the industrial field. Industrial psychology will undermine it by eliminating its fundamental function. The forms of sport with which we are most familiar arise chiefly as a reaction against sedentary and ill-planned occupations. Scientifically organized labour of the future will exhibit more variety and give fuller expression to the many-sidedness of

man. Excessive specialization of the individual in his work has produced an artificial differentiation in the arrangement of his life, of which the distinction of work and play is the most glaring example.

With the outgrowing of sport, or, more strictly, with the blending of work and play man will apply himself to tasks commensurate with his powers. Dimly we begin to see what these tasks will be. The task of government, complex as it may be, will be less difficult in many respects than it is to-day. The danger of revolution should be only a remote contingency. The stability of a society ultimately depends inversely upon the prevalence of nepotism. A government of the efficient and the talented equipped with

scientific knowledge would be impregnable. It matters not that men are mostly irrational so long as the rational have the power to rule. The irrationality of the rest is subject to uniform law, which, understood, can be brought within control. But the temptation to the ruler to hand on the reins of power to the inefficient with whom he has emotional ties of paternity or friendship is almost irresistible. The difficulty, however, is not insuperable. Some form of "Socialism", which started all at equality and promoted to power according to ability, gauged quasimechanically by mental and vocational tests, would be a partial safeguard. Moreover, in a compact ruling class a kind of family moral tradition might

emerge. This would be reinforced by the commonsense recognition of the dangers of promoting the inefficient on a large scale over the heads of the competent. The obvious effect of such promotion is, in the long run, revolution; and revolutions will probably be recurrent until the lesson has been learnt.

VI

And will these god-like beings with their infinite wealth and power, in their perfect rationality, be any happier or even morally better creatures than ourselves?

The formula for happiness is a fairly simple one. Its relative components

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a vulgar fraction. The denominator is constituted by that towards which we aspire; the numerator is the number of our achievements. There is a law by which these two vary almost in unison. Any augmentation of achievement sends up proportionally the number of our desires, whilst great losses are followed by resignation. It is just for those fleeting moments in which the balance is disturbed that we experience bliss or misery. But the moments are very fleeting, and the normal ratio is restored. Happiness is the carrot before the donkey's nose. Therein lies the moral of Tantalus, so grievously misinterpreted by Dr Schiller. Tantalus is the symbol of human progress. The only danger is that

under Scientific Management man may see through the trick.

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